

IN THE SPECIFICATION:

Paragraph beginning at page 1, line 11 has been amended as follows:

The present invention relates to semiconductor devices with quantum dots, ~~manufacture~~ manufacturing methods thereof, and semiconductor laser devices, and more particularly to semiconductor devices utilizing carriers injected into quantum dots, manufacture methods thereof, and semiconductor laser devices utilizing luminescence by recombination of carriers in quantum dots.

Paragraph beginning at page 1, line 24 has been amended as follows:

Quantum dot structures have drawn attention as the ultimate structure based upon quantum mechanics. A quantum dot ~~[[means]]~~ is an ultra fine structure having an energy level lower than a potential of a nearby region and being able to three-dimensionally confine carriers in an ultra fine region. Only two electrons can exist in one quantum dot at the ground level on the conduction band side. If a quantum dot is used as an active region of a laser device, interaction between electrons and holes can be made efficient. A laser device using quantum dots is expected to be a device which exceeds the limit of laser devices using a two-dimensionally extending quantum well layer, from the viewpoint of an oscillation threshold value, the temperature characteristics of the oscillation threshold value and the like. Studies of semiconductor devices utilizing quantum dots are vigorous, such as quantum dot memory devices utilizing the hole burning effects.

Paragraph beginning at page 6, line 15 has been amended as follows:

[[Since]] Because the barrier layer is disposed between the first and second separation confinement hetero layers, it is possible to improve the injection efficiency of carriers into the quantum dots. Luminescence efficiency can therefore be raised.